Amendment to the Claims

Kindly amend claims 1, 6, and 12, as set forth below. In compliance with the Revised Amendment Format published in the Official Gazette on February 25, 2003, a complete listing of claims is provided herein. The changes in the amended claims are shown by strikethrough (for deleted matter) and underlining (for added matter).

1.   (Currently Amended) A method of operating a buffer memory, the buffer having a plurality of entries, the entries being subject to processing by processes, said method comprising:

generating an active bit string for each of <u>at least one process of</u> said processes, wherein the active bit string comprises status information for the entries, and wherein the status information of an entry of said entries indicates readiness of the entry for further processing by said at least one process; and

said generating comprises computing the status information by

(i) comparing an entry index of the entry to an out-pointer to determine whether the entry index is greater than or equal to the out-pointer,

(ii) comparing the entry index of the entry to an in-pointer to determine whether the entry index is less than the in-pointer;

(iii) determining whether a buffer wrap around in said buffer has occurred, and one of the comparing (i) and the comparing (ii) is true, and if so, setting the status information of the entry to a value which indicates said readiness of the entry for further processing by the at least one process; and

(iv) determining whether the comparing (i) and the comparing (ii) are both true, and if so, setting the status information of the entry to a value which indicates said readiness of the entry for further processing by the at least one process.

2.   (Previously Presented) The method of claim 1 wherein the status information of the entry indicates readiness of the entry for further processing by a process associated with the active bit string.

3.   (Previously Presented) The method according to claim 1, wherein computing the status information further comprises maintaining an in-pointer and an out-pointer for each of said at least one process and wherein said comparing (i) utilizes a comparator, and said comparing (ii) utilizes a comparator.

4.   (Previously Presented) The method according to claim 3 wherein said buffer memory operates as an instruction window buffer, which can store processing instructions, and said at least one process is one of a plurality of processes comprising at least two of dispatching new instructions to the instruction window buffer, retiring instructions from said instruction window buffer by a commit process, or purging at least one instruction from said window buffer.

5.   (Original) The method according to claim 3 for use in managing queues.

6.   (Currently Amended) A buffer storage device having a plurality of entries, the entries being subject to processing by processes, and comprising:

     means for generating an active bit string for each of at least one process of said processes, wherein the active bit string comprises status information for the entries, and wherein the status information of an entry of said entries indicates readiness of the entry for further processing by said at least one process; and

     means for computing the status information by

     (i) comparing an entry index of the entry to an out-pointer to determine whether the entry index is greater than or equal to the out-pointer,

     (ii) comparing the entry index of the entry to an in-pointer to determine whether the entry index is less than the in-pointer;

     (iii) determining whether a buffer wrap around in said buffer has occurred, and one of the comparing (i) and the comparing (ii) is true, and if so, setting the status information of the entry to a value which indicates said readiness of the entry for further processing by the at least one process; and

     (iv) determining whether the comparing (i) and the comparing (ii) are both true, and if so, setting the status information of the entry to a value which

indicates said readiness of the entry for further processing by the at least one process.

7. (Previously Presented) The buffer storage device of claim 6 wherein the status information of the entry indicates readiness of the entry for further processing by a process associated with the active bit string.

8. (Previously Presented) The buffer storage device of claim 7 wherein the means for computing the status information further comprises maintaining an in-pointer and an out-pointer for each of said at least one process and wherein said comparing (i) utilizes a comparator, and said comparing (ii) utilizes a comparator.

9. (Canceled)

10. (Previously Presented) A microprocessor device having at least one buffer storage device according to claim 6.

11. (Original) A computer system having a microprocessor device according to claim 10.

12. (Currently Amended) A computer system having a microprocessor device, said microprocessor device having at least one sub-unit, said at least one sub-unit having one or more storage devices, at least one storage device of said one or more storage devices having a plurality of entries, the entries being subject to processing by processes, and said at least one storage device comprising:

> means for generating an active bit string for each of <u>at least one process of</u> said processes, wherein the active bit string comprises status information for the entries, and wherein the status information of an entry of said entries indicates readiness of the entry for further processing by said at least one process; and

> means for computing the status information by

>> (i) comparing an entry index of the entry to an out-pointer to determine whether the entry index is greater than or equal to the out-pointer,

(ii) comparing the entry index of the entry to an in-pointer to determine whether the entry index is less than the in-pointer;

(iii) determining whether a buffer wrap around in said storage device has occurred, and one of the comparing (i) and the comparing (ii) is true, and if so, setting the status information of the entry to a value which indicates said readiness of the entry for further processing by the at least one process; and

(iv) determining whether the comparing (i) and the comparing (ii) are both true, and if so, setting the status information of the entry to a value which indicates said readiness of the entry for further processing by the at least one process.

13.   (Previously Presented) The computer system of claim 12, wherein the status information of the entry indicates readiness of the entry for further processing by a process associated with the active bit string.

14.   (Previously Presented) The computer system of claim 13, wherein the means for computing the status information further comprises maintaining an in-pointer and an out-pointer for each of said at least one process and wherein said comparing (i) utilizes a comparator, and said comparing (ii) utilizes a comparator.

15.   (Previously Presented) The method of claim 1, wherein the determining (iii) further comprises inputting a result obtained from the comparing (i) and a result obtained from the comparing (ii) into an OR gate and computing a logical AND of the OR gate's output with an instruction window buffer wrap signal.

16.   (Previously Presented) The buffer storage device of claim 6, wherein said buffer storage device further comprises a plurality of means for computing the status information, wherein each of the plurality of means for computing is associated with one of the plurality of entries.

17.   (Previously Presented) The buffer storage device of claim 16, wherein said each of the plurality of means for computing further comprises means for computing the status information associated with each of said of at least one process.